“COMPARISON OF NALBUPHINE WITH 0.125% BUPIVACAINE AND PLAIN 0.125% BUPIVACAINE IN THORACIC EPIDURAL FOR POST OPERATIVE ANALGESIA IN UPPER ABDOMINAL SURGERY”

Abstract

Background:

Acute uncontrolled post-operative pain and the pathophysiological response to surgery by stimulation of autonomic nervous system leads to stress responses causing significant adverse effects and complications to multi organ systems.

The important goal is to reduce the postoperative pain and discomfort .Controlling pain is a multimodal approach with the use of various pharmacological agents (opioids and non-opioids), by different routes (intravenous vs regional techniques) with minimal incidence of adverse effects

. In this study, we attempted to define the haemodynamic, analgesic profile and efficacy of Nalbuphine as an additive to Bupivacaine in thoracic epidural for postoperative analgesia in upper abdominal surgeries.

Methods:

A prospective double blind comparative study of nalbuphine with 0.125% bupivacaine and plain 0.125% bupivacaine in thoracic epidural for post operative analgesia in upper abdominal surgery was carried out in a population of 60 patients of ASA I – III undergoing elective and emergency surgeries. They were randomised and allocated into two groups with group A, patients receiving Nalbuphine with 0.125% Bupivacaine and group B receiving Normal Saline with 0.125% Bupivacaine.

The aim of the study was to compare the onset and duration of analgesia, level of consciousness(sedation), pain scoring by VAS (Visual analogue scoring), haemodynamic changes and incidence of complications and other side effects.

Before induction of anaesthesia, Epidural Tuohy needle was inserted at T9 – T11 level. Using 18 gauge epidural catheter was threaded through the epidural space for 4-5cm and placed at T7-T9level. After epidural test dose of 3ml of lignocaine with adrenaline given to rule out intrathecal and intravascular misplacement of catheter. Patients in Group A received 1ml of Nalbuphine(10mg) with 2.5ml of 0.5% Bupivacaine, diluted in NS to 10ml and Group B received 1ml of Normal Saline with 2.5ml of 0.5% Bupivacaine, diluted in NS to 10ml and the patient was observed for the study parameters over time.The data were collected, compiles and statistical analysed.

Results:

The mean time of onset of analgesia was short and quick onset of action in group A than group B (7.07min Vs 17.83min). The mean duration of analgesia was longer in group A than group B (8.4 hrs Vs 3.6 hrs). In group A, drop in heart rate and mean arterial pressure from baseline till 30 mins and reach near-baseline levels by 120 minutes, and in group B, drop in heart rate and mean arterial pressure from baseline till 30 mins and reaches baseline by 120 minutes was observed. No subject in Group B attained sedation whereas all the subjects in Group A had a sedation score of 2 and above at 15 min, 30 mins, 60 mins, 2 hours, 4 hours and 6 hours. The subjects in Group A had lower VAS score than Group B at 15 min, 30 mins, 60 mins, 2 hours, and 4 hours and this difference was statistically significant. There was no incidence of side-effects like respiratory depression, pruritis, nausea, vomiting in both groups. Only two subjects in Group B needed rescue analgesia.

Conclusion:

The study concludes that epidural nalbuphine in a dose of 0.2 mg /kg with 0.125% bupivacaine, provides faster onset and longer duration of analgesia with better quality and patient satisfaction.

Key Words: Thoracic Epidural, Nalbuphine, bupivacaine, Post Operative analgesia